

## ECS Configuration Change Request

Page 1 of 7 Page(s)

1. Originator Evan Winston	2. Log Date: 10/25/00	3. CCR #: 00-1037	4. Rev: -	5. Tel: 301.925.0348	6. Rm #: 2013	7. Dept. DEV/CO
8. CCR Title: Test Executable 5B.06_SDSRV.03 to all sites. NCR 28272 - MODIS granule insert failure with multiple hard-coded containers						
9. Originator Signature/Date <i>E. Winston</i> 10/25/00		10. Class II	11. Type: CCR	12. Need Date: 25Oct2000		
13. Office Manager Signature/Date <i>Bob Not Sr / Tim O'Neil</i> 10/25/00		14. Category of Change: Update ECS Baseline Doc.		15. Priority: (If "Emergency" fill in Block 28). Emergency		
16. Documentation/Drawings Impacted: N/A		17. Schedule Impact: N/A		18. CI(s) Affected:SDSRV		
19. Release Affected by this Change: 5B		20. Date due to Customer:		21. Estimated Cost: None - Under 100K		
22. Source Reference: <input checked="" type="checkbox"/> NCR (attach) <input type="checkbox"/> Action Item <input type="checkbox"/> Tech Ref. <input type="checkbox"/> GSFC <input type="checkbox"/> Other: NCR ECSed28272 MODIS granule insert failure with multiple hard-coded containers						
23. Problem: (use additional Sheets if necessary) When attempting to insert a MODIS granule for the MOD05_L2 ESDT, the insert generates a warning on metadata validation of the AssociatedPlatformInstrumentSensorContainer attributes and then fails when attempting to update the SDSRV database.  1. GetMCF fails due a remaining 'CLASS=M' discrepancy -- needed for the PGE testing at the DAACs -This is fixed with this TE. 2. Validation failures at the SIPS -- needed for MODAPS and for the PGE testing at the DAACs - This is fixed with a workaround with this TE (see proposed solution below).						
24. Proposed Solution: (use additional sheets if necessary) The proposed solution contains a workaround: Ignores validation for values in InstrumentSensorContainer. I.e platform short name, instrument shortname, sensor short name -and is planned to be followed up with a more generic solution (new NCR is 28702). NOTE: It is recommended that LaRC NOT TAKE this TE and WAIT for the generic solution (MISR does not use multiple-hardcoded containers)!!!!!! ALL OTHERS SHOULD take this TE -- Refer to the A.O.analysis on pg.5-7.						
25. Alternate Solution: (use additional sheets if necessary) Take no action now and wait until 5B.07 is available at the DAACs.						
26. Consequences if Change(s) are not approved: (use additional sheets if necessary) DAACs must continue to work around the problems and/or modify operating procedures.						
27. Justification for Emergency (If Block 15 is "Emergency"): Resolves DAAC operational problem. Needed for SO testing in PVC TS1.						
28. Site(s) Affected: <input type="checkbox"/> EDF <input checked="" type="checkbox"/> PVC <input checked="" type="checkbox"/> VATC <input checked="" type="checkbox"/> EDC <input checked="" type="checkbox"/> GSFC <input checked="" type="checkbox"/> LaRC <input checked="" type="checkbox"/> NSIDC <input checked="" type="checkbox"/> SMC <input type="checkbox"/> AK <input type="checkbox"/> JPL <input type="checkbox"/> EOC <input type="checkbox"/> IDG Test Cell <input type="checkbox"/> Other						
29. Board Comments:			30. Work Assigned To:		31. CCR Closed Date:	
32. EDF/SCDV CCB Chair (Sign/Date): <i>[Signature]</i> 10/25/00		Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS				
33. M&O CCB Chair (Sign/Date): <i>Jamie Laucharme</i> 10/25/00		Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS				
34. ECS CCB Chair (Sign/Date):		Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS				

## ADDITIONAL SHEET

CCR #: *00-1037* Rev: — Originator: Evan Winston

Telephone: 301.925.0348 Office: DEV/CO

**Title of Change:** Test Executable 5B.06\_SDSRV.03 to all sites. NCR 28272 - MODIS granule insert failure with multiple hard-coded containers

CM: PLEASE, build Sun TAR file for the listed files from current 5B baseline and provide to the SMC.

/ecs/formal/DSS/lib/sun5.5/libDsDe2Sh.so

SMC: Receive the TAR file and make available to the DAACs, PVC and VATC.

DAAC Install Instructions:

TE SHOULD be loaded on top of SDSRV installations of 5B.03, and 5B.04 with TE 5B.05\_SDSRV.02 installed OR  
TE can be loaded on top of SDSRV installations of 5B.06

1. Get TAR File(s) from SMC distribution;
2. UNTAR the file(s) and copy to the staging area.
3. Use the 'cp' from the command line to replace the file(s).

when cp remember to REPLACE all occurrences of the file(s) included with this TE mode-by-mode, using the same permissions levels and ownerships as previous file.

Depending on local options, the file path for these libraries may be:

/usr/ecs/<MODE>/CUSTOM/lib/DSS/

Detailed Problem Statement:

When attempting to insert a MODIS granule for the MOD05\_L2 ESDT, the insert generates a warning on metadata validation of the AssociatedPlatformInstrumentSensorContainer attributes and then fails when attempting to update the SDSRV database.

The MOD05\_L2 ESDT descriptor (along with several other descriptors) has been modified at the MODIS team's request to hard-code multiple AssociatedPlatformInstrumentSensorContainers in the inventory level of the descriptor. The first container contains the following values:

AssociatedPlatformShortName: Terra  
AssociatedInstrumentShortName: MODIS  
AssociatedSensorShortName: VNIR

The second container contains the following values:

AssociatedPlatformShortName: Terra  
AssociatedInstrumentShortName: MODIS  
AssociatedSensorShortName: SWIR

When the .met file containing the above values is inserted into the SDSRV, the following warning message is issued for the second container (the first container passes):

Msg: (DsDeAttNode.cxx:638) Collection level value for  
INVENTORYMETADATA:AssociatedPlatformInstrumentSensor:AssociatedPlatformInstrumentSensorContainer:AssociatedSensorShortName(SWIR)  
must be (VNIR) Priority: 1

The granule insert fails with the following messages:

Msg: DsDb::SybaseError<Procedure ProcInsertAssocPlatInstrSensor expects  
parameter @granuleId, @AssociatedPlatformShortName,  
@AssociatedInstrumentShortName and @AssociatedSensorShortName, which was not  
supplied.:> at DsDbInterface.cxx : 974 Priority: 2

Msg: DsMdCatalogBase::ExecuteStatement<Error executing:  
ProcInsertAssocPlatInstrSensor 34384, "Terra", "MODIS", null, null> at  
DsMdCatalogBase.cxx : 4724

After trying various metadata combinations in the .met file, it appears that  
if the 'Class' number is set to the same number in both containers, the insert  
will succeed but the second container's values are not returned upon an  
acquire. The order of containers is important. If the "SWIR"  
AssociatedSensorShortName appears in the first container, the insert fails.

NSIDC is having this same problem with MOD10\_L2. They are unable to insert  
live data from MODIS.

October 19, 2000 JLP

An additional problem related to this is that when the MCF is generated, it  
contains a 'Class = "M"' characteristic for the attributes in all of the  
hard-coded containers. The Class number should be set to "1" for the first  
container, "2" for the second container, etc (this is how the Class numbers  
are set in the descriptor).

Here is an ODL extract from the SDSRV-generated MCF for MOD05\_L2:

```
GROUP = AssociatedPlatformInstrumentSensor
OBJECT = AssociatedPlatformInstrumentSensorContainer
  Data_Location = "NONE"
  Mandatory = "TRUE"
  CLASS = "M"
  OBJECT = AssociatedSensorShortName
    Mandatory = "TRUE"
    CLASS = "M"
    Data_Location = "MCF"
    NUM_VAL = 1
    TYPE = "STRING"
    Value = "VNIR"
  END_OBJECT = AssociatedSensorShortName
  OBJECT = AssociatedPlatformShortName
    Mandatory = "TRUE"
    CLASS = "M"
    Data_Location = "MCF"
    NUM_VAL = 1
    TYPE = "STRING"
    Value = "Terra"
  END_OBJECT = AssociatedPlatformShortName
  OBJECT = AssociatedInstrumentShortName
    Mandatory = "TRUE"
    CLASS = "M"
    Data_Location = "MCF"
    NUM_VAL = 1
    TYPE = "STRING"
    Value = "MODIS"
```

```

END_OBJECT = AssociatedInstrumentShortName
END_OBJECT = AssociatedPlatformInstrumentSensorContainer
OBJECT = AssociatedPlatformInstrumentSensorContainer
  Data_Location = "NONE"
  Mandatory = "TRUE"
  CLASS = "M"
OBJECT = AssociatedSensorShortName
  Mandatory = "TRUE"
  CLASS = "M"
  Data_Location = "MCF"
  NUM_VAL = 1
  TYPE = "STRING"
  Value = "SWIR"
END_OBJECT = AssociatedSensorShortName
OBJECT = AssociatedPlatformShortName
  Mandatory = "TRUE"
  CLASS = "M"
  Data_Location = "MCF"
  NUM_VAL = 1
  TYPE = "STRING"
  Value = "Terra"
END_OBJECT = AssociatedPlatformShortName
OBJECT = AssociatedInstrumentShortName
  Mandatory = "TRUE"
  CLASS = "M"
  Data_Location = "MCF"
  NUM_VAL = 1
  TYPE = "STRING"
  Value = "MODIS"
END_OBJECT = AssociatedInstrumentShortName
END_OBJECT = AssociatedPlatformInstrumentSensorContainer
END_GROUP = AssociatedPlatformInstrumentSensor

```

This section should read as follows:

```

GROUP = AssociatedPlatformInstrumentSensor
  OBJECT = AssociatedPlatformInstrumentSensorContainer
    Data_Location = "NONE"
    Mandatory = "TRUE"
    CLASS = "1"
  OBJECT = AssociatedSensorShortName
    Mandatory = "TRUE"
    CLASS = "1"
    Data_Location = "MCF"
    NUM_VAL = 1
    TYPE = "STRING"
    Value = "VNIR"
  END_OBJECT = AssociatedSensorShortName
  OBJECT = AssociatedPlatformShortName
    Mandatory = "TRUE"
    CLASS = "1"
    Data_Location = "MCF"
    NUM_VAL = 1
    TYPE = "STRING"
    Value = "Terra"
  END_OBJECT = AssociatedPlatformShortName
  OBJECT = AssociatedInstrumentShortName
    Mandatory = "TRUE"
    CLASS = "1"
    Data_Location = "MCF"
    NUM_VAL = 1
    TYPE = "STRING"
    Value = "MODIS"
  END_OBJECT = AssociatedInstrumentShortName

```

```

END_OBJECT = AssociatedPlatformInstrumentSensorContainer
OBJECT = AssociatedPlatformInstrumentSensorContainer
  Data_Location = "NONE"
  Mandatory = "TRUE"
  CLASS = "2"
OBJECT = AssociatedSensorShortName
  Mandatory = "TRUE"
  CLASS = "2"
  Data_Location = "MCF"
  NUM_VAL = 1
  TYPE = "STRING"
  Value = "SWIR"
END_OBJECT = AssociatedSensorShortName
OBJECT = AssociatedPlatformShortName
  Mandatory = "TRUE"
  CLASS = "2"
  Data_Location = "MCF"
  NUM_VAL = 1
  TYPE = "STRING"
  Value = "Terra"
END_OBJECT = AssociatedPlatformShortName
OBJECT = AssociatedInstrumentShortName
  Mandatory = "TRUE"
  CLASS = "2"
  Data_Location = "MCF"
  NUM_VAL = 1
  TYPE = "STRING"
  Value = "MODIS"
END_OBJECT = AssociatedInstrumentShortName
END_OBJECT = AssociatedPlatformInstrumentSensorContainer
END_GROUP = AssociatedPlatformInstrumentSensor

```

AO Analysis 10/23-25/00 Added by E. Nakamura

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10/25/00 11:00

Oladele is performing final tests prior to merge. Merge is expected in the next few hours.

To clarify, the patch for OPS Sev 1 NCR ECSed 28272 will contain the following :

- (a) Resolution for the GetMCF bug (CLASS=M is now CLASS=(multiple container number). This is a permanent fix.
- (b) Workaround to disable validation of the granule level Associated Platform Instrument Sensor Container group metadata. Risk is described in more detail under the Workoff Plan below. This is only a workaround.

It is anticipated that the Science Office will close NCR ECSed28272 with the verification of this patch.

A new NCR has been opened to track the unresolved discrepancy that is being worked around in the patch (described as (b) above). This new NCR is OPS Sev 2 ECSed28702, "SDSRV Fails Granules w/Multiple Hardocded Containers".

---ENN

10/24/00 19:10

Updated status of OPS Sev 1 NCR ECSed 28272

Task 1 :

Wei and Oladele have fixed the GetMCF bug (not a workaround).  
Development will merge the fix first thing in the morning (10/25).  
After the build, Development will test with the SO in the lab.  
Then CO will stage the TE for the DAACs and the PVC (TS1)

---ENN

Evelyn N Nakamura wrote:

> 10/24/00 18:00

> Current status of OPS Sev 1 NCR ECSed 28272 :

>

> Task 1 completed integration test from last night's build in the functionality lab  
> today. Tests of inserting data and acquiring data were successful but GetMCF failed  
> due to the remaining "CLASS=M" discrepancy. The workoff plan did not directly address  
> this discrepancy that GSF DAAC was experiencing, but instead was focused on the  
> validation failures at the SIPS.

>

> The workoff plan is revised to include the additional code fix for the GetMCF  
> discrepancy. The GetMCF fix is needed for the PGE testing at GSF DAAC. The  
> workaround is needed for MODAPS and for the PGE testing at the GSF DAAC. The  
> combination should complete Task 1. (At this time, Development is pursuing a fix to  
> the GetMCF bug, not a workaround) It is not expected that a merge will be ready  
> tonight for the GetMCF fix.

>

> ---ENN

>

> Evelyn N Nakamura wrote:

>

>> Jon :

>> Thank you for the clarification on the operational status of MISR, and for the  
>> further justification for why we don't need to send Larc the patch.

>> ---ENN

>>

>> Jon Pals wrote:

>>

>>> Evelyn,

>>>

>>> A minor clarification. Some of the MISR data that uses a PGE to set  
>>> the AssociatedSensorShortName attribute is publicly available. However,  
>>> since MISR does not use multiple-hardcoded containers, there is no problem  
>>> with the current SDSRV code for MISR processing.

>>>

>>> Jon

10/23/00 13:00 Current status of OPS Sev 1 NCR ECSed 28272 :

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Work off plan (Tasks 1 & 2) approved by PM (Fox).

Workaround estimated to be ready for testing today, for deployment 10/24.

Generic solution estimated by Development to be available for testing 2-4 weeks.

Important things to note about the workaround :

- Workaround will affect those PGEs which set granule level Associated Platform Instrument Sensor Container group metadata. The workaround will disable validation of this entire group at the granule level, regardless of the source (PGE or descriptor). To mitigate this risk for the duration of the workaround (2 - 4 weeks until the generic solution is ready), DAACs are cautioned to pay particular attention to the setting of these values during SSIT. Failure to do so will result in population of the SDSRV catalog with invalid values for these attributes. This will be noted in the NCR enclosure and in the installation instructions for the patch.

- Following DAACs with SIPS/MODAPS interfaces are affected and are recommended to take the workaround patch : NSIDC, EDC, GSF

- MISR sets these granule level values from the PGE, but they are not yet operational so it is not recommended that LaRC take this patch. LaRC is recommended to take the generic solution.

It is recommended that the PVC testing of the workaround verify this NCR

(28272). Another OPS SDSRV NCR will be opened that will address the generic solution.

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Task 1 : Develop a workaround solution and deploy as a TE to GSF. The workaround will ignore validation of the Associated Platform Instrument Sensor Container group.

- \* Development : Oladele O. to code, test, and merge workaround - 10/23
- \* CO : Build the merge in 5B04 and provided to Dev for lab testing - 10/23 or 10/24
- \* Science Office : Jon P. & Mike Morahan to assist with identifying test data in Functionality Lab
- \* Development : Oladele O. to test in Functionality Lab
- \* CO : Create patch and stage to SMC for PVC and 3 DAACs : GSF, NSIDC, EDC - 10/24
- \* Science Office : Jon P. & Mike Morahan to assist with identifying test data in the PVC - 10/24
- \* Development : Oladele O. to test in the PVC - 10/24
- \* Development : John C. to add "Important things to note about the workaround" in the patch installation instructions 10/24
- \* CO : Deploy patch to GSF, NSIDC, EDC - 10/24

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Task 2 : Continue to pursue a generic solution with the aim of meeting the "golden month" deadline. NEED DATES and DEADLINE

- \* Development to lead this task.

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Another issue : Why the failure of the PGEs at GSF in response to the workaround for SIPS? I will take the action to investigate.

- \* The failures at GSF were "not" in response to the workaround for SIPS. The CLASS=M is being (and always has been) generated from descriptors that have multiple container metadata. The problem is now in the foreground because MODIS is now using the descriptors to hardcode these values. Still investigating.

SO Clarification 10/23/00 (Added by E. Nakamura, from email from J. Pals)

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A minor clarification. Some of the MISR data that uses a PGE to set the AssociatedSensorShortName attribute is publicly available. However, since MISR does not use multiple-hardcoded containers, there is no problem with the current SDSRV code for MISR processing.

CM01AJA00